M/037/0058

LISBON VALLEY MINING CO

Meeting Agenda
Open Pit Backfilling Proposal
Sentinel East Pit

Date: Nov 20, 2007 10:00 AM

Attendees: Lynn Jackson (BLM) Rebecca Doolittle (BLM), Paul Baker (DOGM), Robert Washnock (LVMC), Lantz Indergard (LVMC)

Objective: Present a conceptual proposal to backfill the Sentinel East pit and identify the NEPA process necessary for approval.

10:00-10:30

LVMC will present a conceptual proposal to backfill the Sentinel East pit using current hydrologic information which demonstrates separation from the BC aquifer. Figures will be handed out comparing new information with information published in the EIS. The figures were developed using Vucan™ to depict the Sentinel East pit (plan-view and section-view) relative to the extent of the BC aquifer at the pre-mining elevation. The figures also provide a conceptual design for backfilling the pit as part of Waste Dump C expansion.

Additional hand outs will include Table 2-11 (EIS Impact Summary), ROD interpretations, and Cumulative Adjustments to Mine Plan. The EIS and ROD information is re-tabulated to compare with current information. The cumulative adjustment table is used for comparison with the Centennial pit expansion approved earlier this year.

It is LVMC's intent to solicit these hand outs as work products for the agencies' use, and to streamline the potential approval process moving forward.

10:30-11:00

Identify the scope of NEPA process, including potential flaws. Develop schedule to follow up with thoughts/comments.

11:00-12:00

Adjourn backfill meeting. Resume site visit with DOGM.

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Cumulative Adjustment to
Mine Plan
Lisbon Valley Mining Co LLC
San Juan County, Utah

	Mining Volumes (cu yds)		Disturbance (acres)				Reclamation and Bonding ($)	
	Ore	Waste	Pits	Dumps	Leach Pad	Total Mine	Leach Pad	Total Mine
Record of Decision/1995 Plan	32,800,000	65,000,000	231	394	266	1103	$5,569,230	$9,521,000
2007 Amendments (Cent/ILS)	28,796,643	64,882,143	255	376	266	1109	$5,848,000	$9,801,000
Cumulative Adjustment	-12.21%	-0.18%	10.39%	-4.57%	0.00%	0.54%	5.01%	2.94%
Proposed Amendments (Backfill Sent E)	28,796,643	64,882,143	255 246	367	266	1100	5848000	9801000
Cumulative Adjustment	-12.21%	-0.18%	10.39% 6.49%	-6.85%	0.00%	-0.27%	5.01%	2.94%

Please file M0370088

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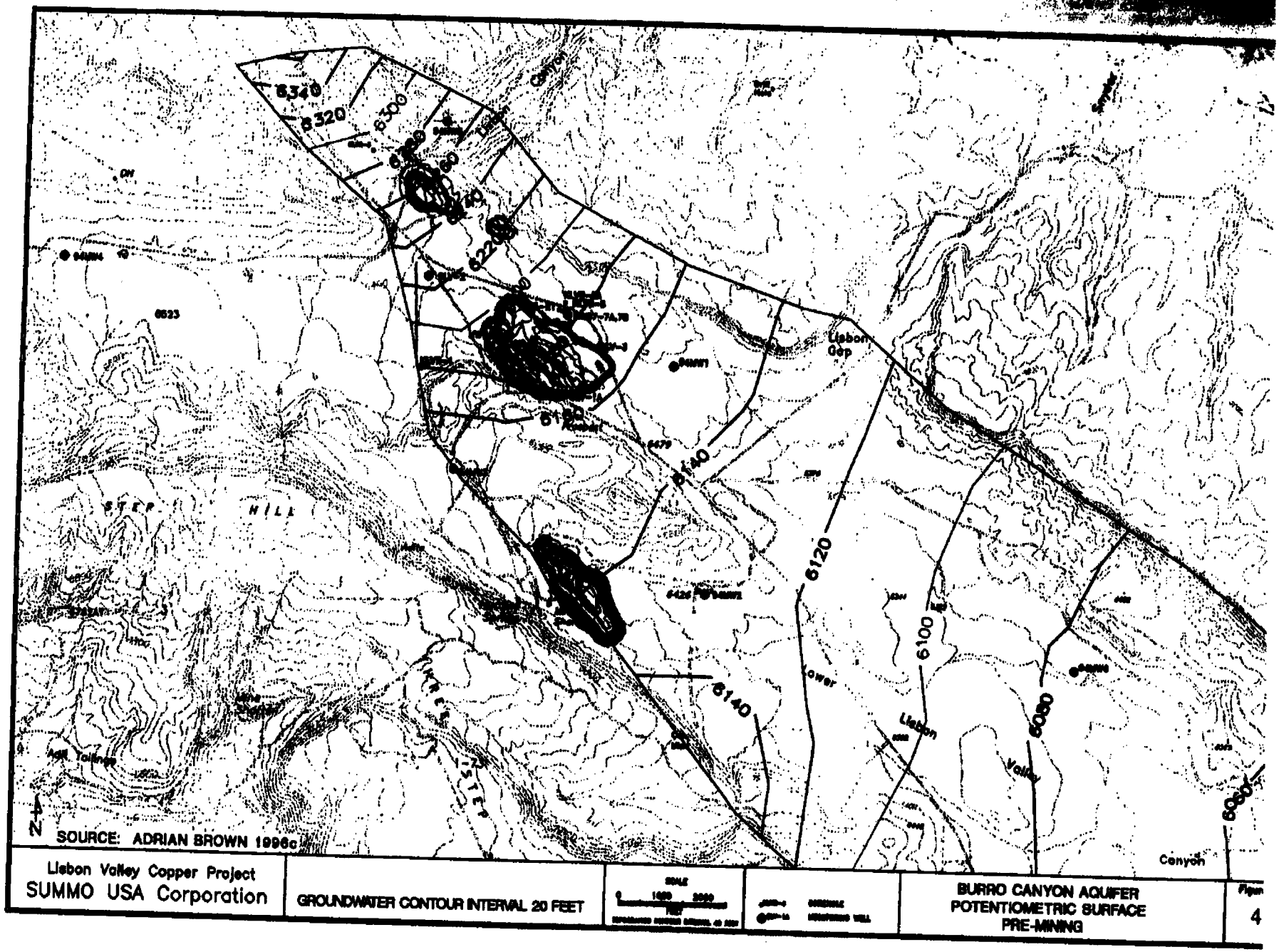
Sentinel East Backfilling Proposal
References relative to ROD

"The backfill alternative was not selected for the following reasons:"	Current Information
Water quality impacts from backfill material, particularly acid-generating material due to increased surface areas of rubblized material, chemical reactions could present a host of unquantifiable adverse impacts to the down gradient aquifers, resulting from chemical interactions of groundwater and waste rock.	The BC aquifer is less extensive than characterized in the EIS. Current information demonstrates that the Sent East will not interact with groundwater.
By requiring a backfill of material from waste dumps to the pits, the engineered placement and isolation of acid-generating material in the dumps would be jeopardized and foregone.	Mines do not typically handle waste more than once. Therefore, backfilling pits from waste dumps is technically an incorrect statement. Further, pits can be backfilled with selective waste, isolating acid generating material, or not using acid-generating material. Current information demonstrates sufficient acid-neutralizing waste is available from Centennial pit to fill Sent E pit.
Visual impact reduction minimal since there will still be surface dumps. Class IV visual rating in Lisbon Valley is not critical.	
Post-mining pit berming, fencing, and signing will minimize public safety. No known safety problems associated with the pre-existing pits for past 20 years.	
Does not conserve resources because backfilling pits will render future recovery infeasible.	


8340
8320
6300
6220
6180
6140
6120
6100
6080
6060
STEP HILL
Lisbon Gap
Lower Lisbon Valley
Canyon
SOURCE: ADRIAN BROWN 1996c
Lisbon Valley Copper Project
SUMMO USA Corporation
GROUNDWATER CONTOUR INTERVAL 20 FEET
SCALE
BURRO CANYON AQUIFER
POTENTIOMETRIC SURFACE
PRE-MINING
Figure
4

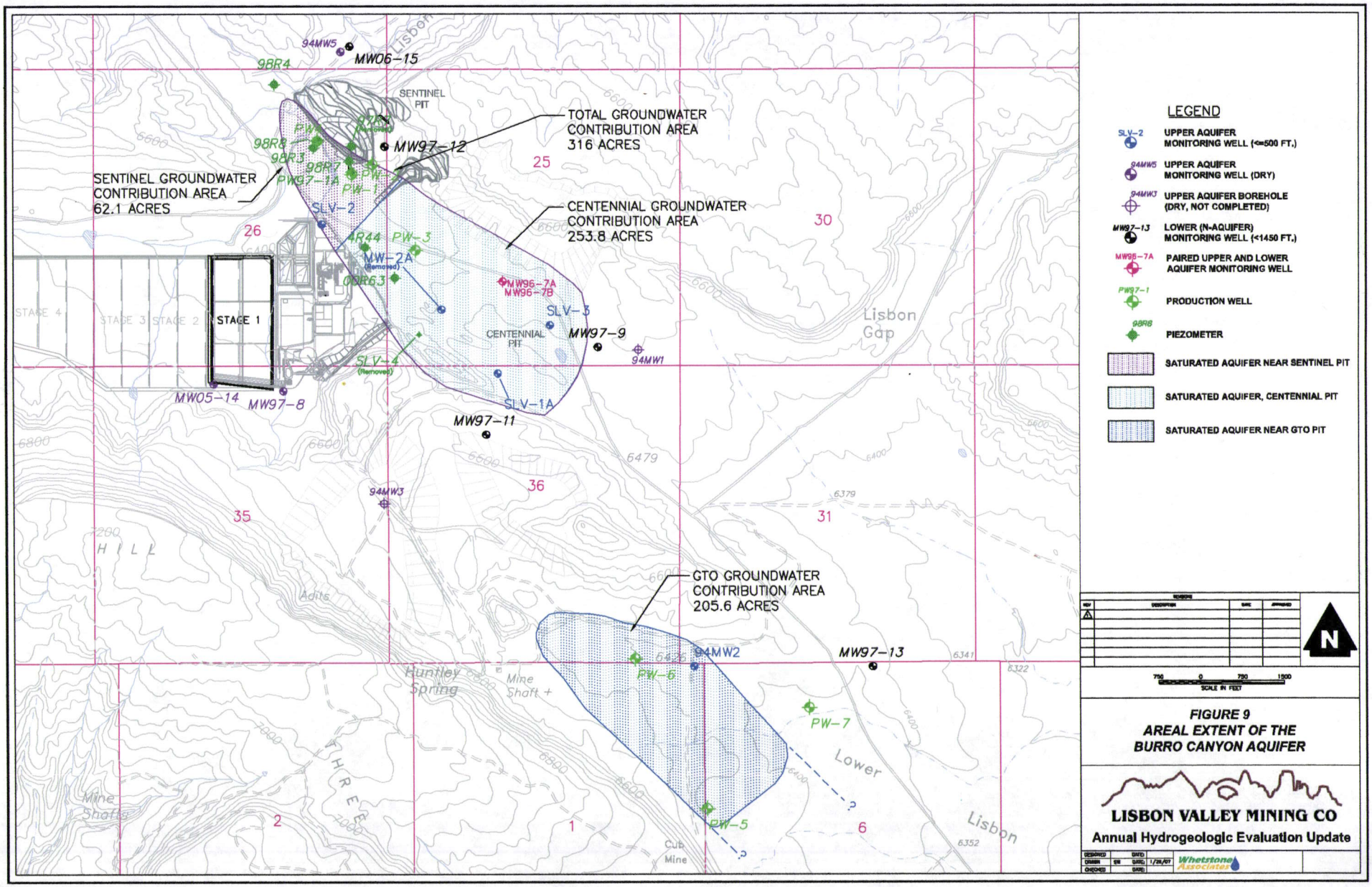


FIGURE 9
AREAL EXTENT OF THE BURRO CANYON AQUIFER

LISBON VALLEY MINING CO
Annual Hydrogeologic Evaluation Update

Whetstone Associates

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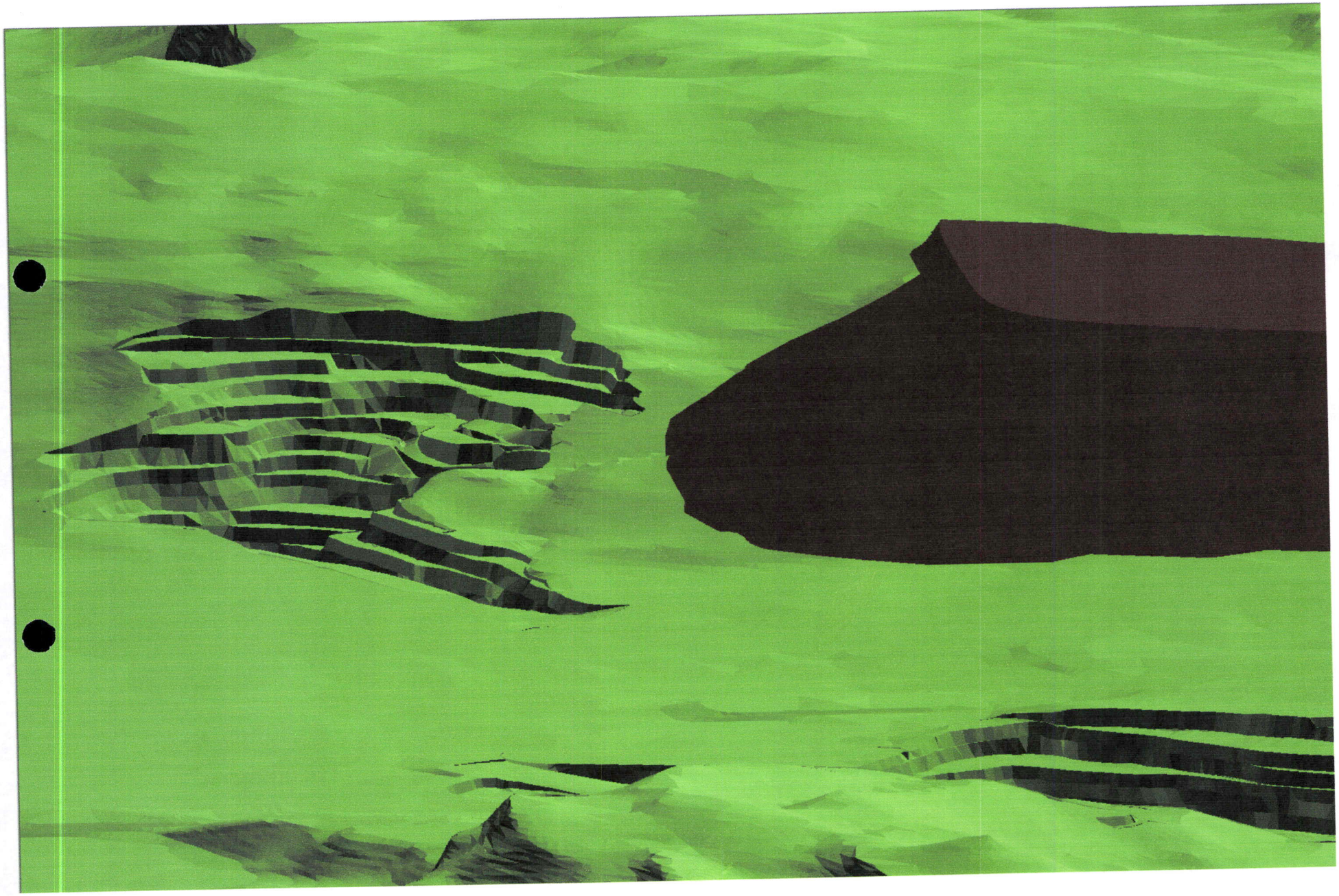
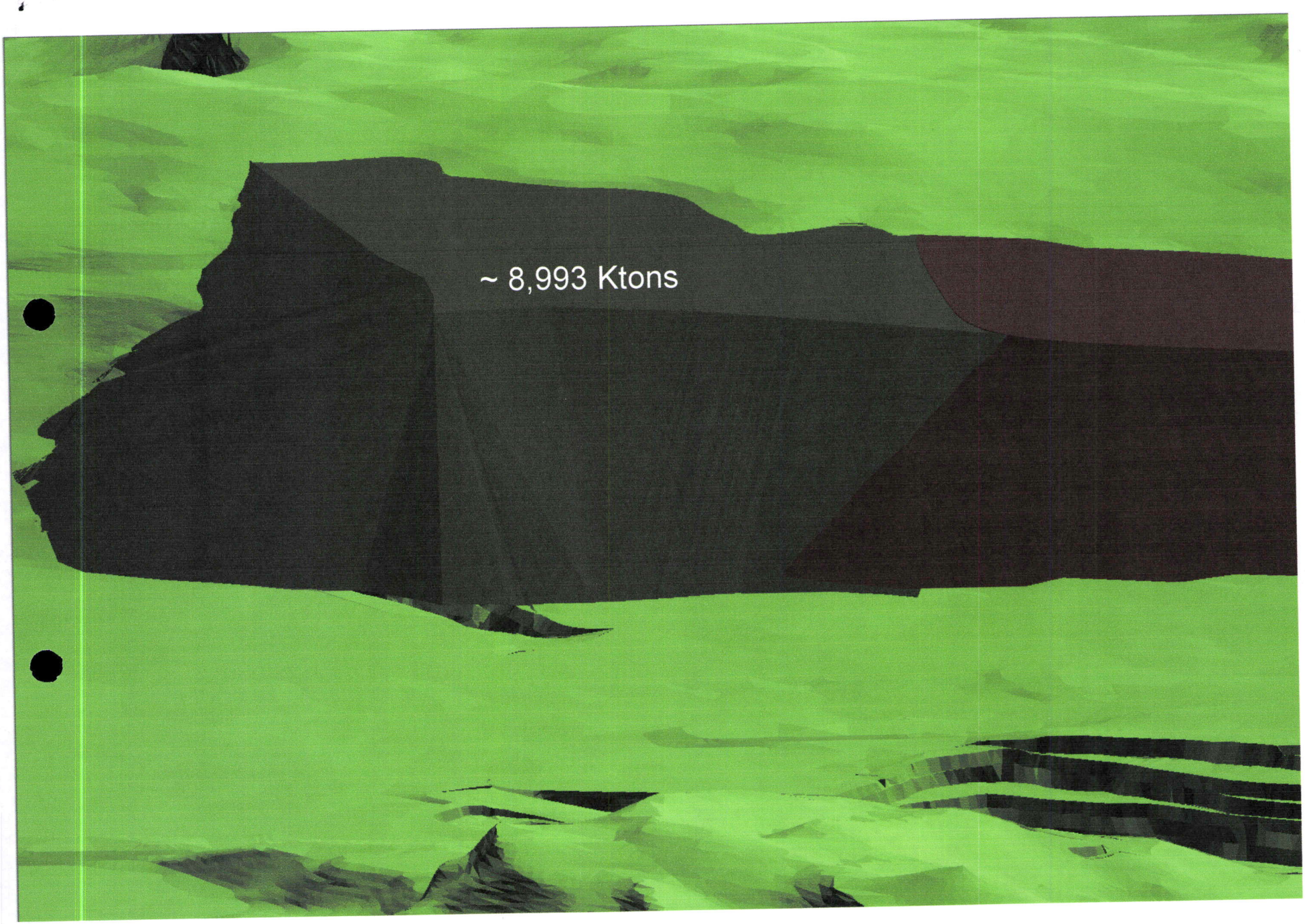
Current Information
relative to
FEIS Table 2-11

Type of Potential impact by Issue	Open Pit Backfilling Alternative	Current Information
Topography	Reduction in depths of pits and heights of dumps. Would re-establish max useable topography	Agrees
Mineral Resources	Future mineral development improbable	Mineralization below Sent E not economic @ $3.50 copper.
Constructed facilities potential failures	Slope failure potential reduced due to reduced waste dump size.	Agrees
Water Supply	No Impact	Agrees
Water Use	Complete backfilling would preserve 177 acres feet of surface water going down Lisbon Canyon.	Backfilling Sentinel East would preserve ---- acre feet.
Water Quality	Backfilling would expose waste rock to both potential acid and alkaline generation (in pockets) in pits and pile vicinities; reduced quantity of waste rock exposed to these effects on the surface would be favorable, as would covering of potentially acid or alkaline materials exposed in pit walls, and eliminating evapoconcentration effects. Unknown impact from utilizing waste material on-site for backfill material. Could adversely impact adjacent groundwater units.	Agrees except last two sentences. On-site material is suitable for backfilling Sent E pit. Groundwater does not occur adjacent to Sent E.
Acid generation potential	Backfilling would cover some potential acid or alkaline generating lithology, and decrease the amount of similar types of waste rock exposed in surface dumps; however replacement of this rock in pits may produce pockets of acid or alkaline water quality, potentially impacting adjacent groundwater units.	Sentinel East is not adjacent any groundwater units.
Alkaline generation potential	Same as above	Sentinel East is not adjacent any groundwater units.
Disturbance	Initial disturbance same as PA but, under the backfilling scenario, all 1,103 ac of disturbance would be reclaimed. Under partial backfilling some dumps would remain on surface, and 231 acres of pits would remain unreclaimed.	246 acres of pit would remain unreclaimed after expanding Centennial pit and backfilling Sent E pit.
Soil Quantity for Reclamation	Less cover soil material required for dumps reclamation, but about 402,494 additional cuyds required for pit reclamation. Necessitating additional disturbance to obtain this material in project vicinity.	15 kton additional topsoil required, however does not require additional disturbance due to soil resources from ILS pond.
Erosion Control and Reclamation Effectiveness	Pit backfilling would reduce slope angles and erosion potential on pit walls and waste rock piles.	Agrees
Disturbance of PJ, Grassland & Rangeland.	Same as PA except 1103 ac reclaimed with complete backfilling scenario. Partial backfilling would result in no reclamation along pit walls, backfilled areas could be revegetated.	Agrees
Habitat Effects from Disturbance	Same as PA except 1103 ac reclaimed with complete backfilling scenario.	9 additional ac reclaimed
Project Construction and Operations effects to Wildlife	Same as PA except long term exposure to pit lakes would not occur.	No pit lake in Sent E
Project Closure Effects	No net loss of habitat if pits backfilled and reclaimed.	Agrees
T&E	Same as PA	Agrees
Disturbance of Grazing Lands-Temporary & Permanent Acreage Losses	Same as PA	9 additional ac reclaimed
Animal Unit Effects	Similar to PA, partial backfilling assumes no future grazing use on pit floor and same losses as PA, full backfilling assumes temporary loss of 71.6 AUMs during mining, full reclamation and no loss of AUMs in long term	Preserves approx 3 AUM
Final Reclamation	Same as PA	9 additional ac reclaimed
Economics and Employment	Backfilling pits could decrease economic and employment effects due to the mine being scaled back as the backfill costs cut into profitability. Also would be loss of employment and economics of future mining.	Positive economics related to pit backfilling.
Housing	Similar to PA but with smaller mine and shorter project life, demand for housing would also be smaller and shorter in duration.	Agrees
Local Facilities and Services	Effects on local infrastructure could be shortened, schedule and mine size would be scaled back.	Agrees
Social Setting	Same as PA	Agrees
Local Mine-Induced Traffic	Impacts similar to PA but reduced in time to local network due to backfilling activity limiting mine size.	Agrees
Mine Operations Traffic	Increase in internal mine truck trips to backfill pits, no increase in haulm trips anticipated across Lisbon Valley Road intersection.	Decreased traffic from shorter haul.
Accidents	Similar to PA although shortened mine life, duration of accident risk would be reduced.	Agrees
Road Maintenance	Less wear on County roads due to reduced scale of project, decreasing road maintenance costs to the County.	Agrees
Transportation	Duration may be reduced, due to reduced scale of project, Acid material trips reduced accordingly, fuel trips would increase by backfilling by truck.	Agrees
Storage and Use	Similar to PA, shorter mine life, reduced duration and risk of spills.	Agrees
Generated Wastes	Same as PA	Agrees
Cultural Impacts	Same as PA	Agrees
Collection/Vandalism	Same as PA	Agrees
Impacts to Paleontology	Same as PA	Agrees
Visual Contrasts during operations	Same as PA	Reduce visual impacts
Residual visual effects after reclamation	Long-term effects less than PA due to decreased height of waste dumps, and backfilled pits present less visual impact	Agrees
Land Use Changes	Use changes shorter in duration due to reduced mine life. Complete backfilling would return 231 acres to potential use.	Agrees
Property Ownership changes	Same as above	Agrees
Compliance w/Air Quality Standards	Not capable of being modeled with existing methodology, additional particulate emissions would occur from "double-handling" of waste rock	Reduced emissions from shorter haul. Waste is not double-handled.
Increments of Air Contaminants exceeding background levels	Same as above	Same as above
Noise Level Impacts	Same as PA except reduced project life.	Agrees
Displacement of Recreation	No change from current use.	Agrees
Property Access	Same as above.	Agrees

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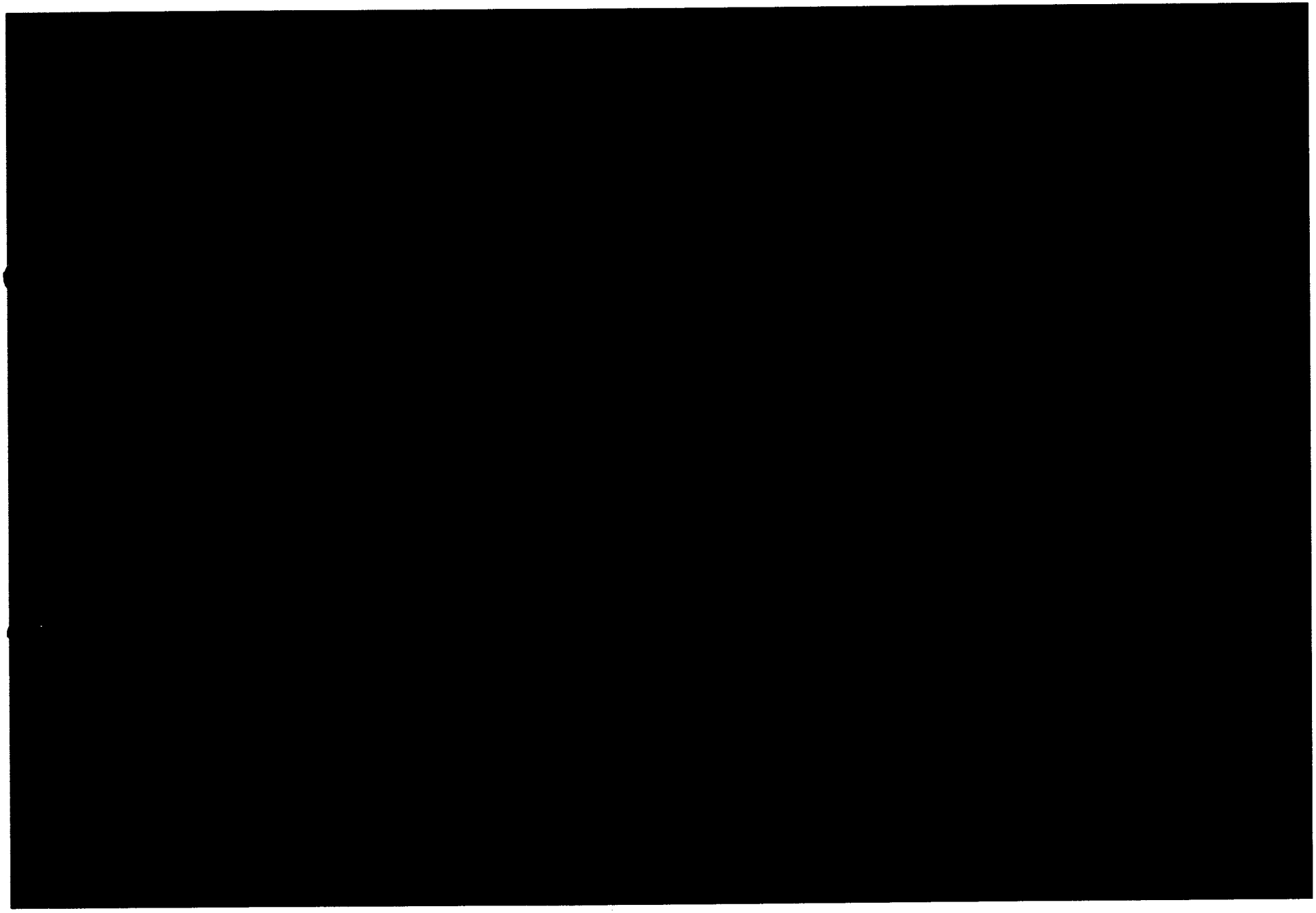


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Sentinel East Pit- 27 Years Post-Mining